

Remarks/Arguments

35 U.S.C. §103

Claims 1-9 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Murtojärvi et al. (U.S. Patent No. 6,393,260), hereinafter “Murtojärvi.”

It is respectfully submitted that Murtojärvi fails to disclose an RF-circuit including an amplifier and a controllable mixer where:

“a controllable portion of the overall gain of the RF circuit is determined by the operating point of the at least one mixing transistor,”

as recited in presently amended claim 1.

Among the problems addressed by the present invention are the need to suppress signals which are adjacent to a useful signal and the high degree of complexity of the circuitry required for this purpose. (Specification, page 2) To address these problems, the present application describes an RF-circuit including an amplifier and a controllable mixer, wherein a control signal is applied to a mixing transistor as a function of the signal quality of the demodulated output signal so as to set the operating point of the mixing. The intermodulation immunity and/or noise in the output signal can be varied, and a controllable portion of the overall gain of the RF-circuit is determined, as a function of the operating point of the mixing transistor.

In contrast, Murtojärvi describes a system including a *balanced mixer*, where balance errors, or imbalance between the two branches of the mixer, may produce spurious signals (Murtojärvi Abstract). More specifically, Murtojärvi teaches “a method and radio receiver for attenuating spurious signals when receiving (6 to 12) radio signals, when radio signals are mixed (10) to a second frequency, which may be the baseband frequency, for example. Spurious signals are caused by balance errors in the mixer (10) which result from component value fluctuations within tolerance limits. According to the invention, mixing is

balanced by setting (12) variable-level bias voltages and/or currents to transistors in the mixer circuit (10).” (Murtojärvi Abstract)

Murtojärvi fails to teach controlling a portion of the *overall gain of the RF circuit* based on the operating point of a transistor of the mixer. The balancing action of Murtojärvi is directed instead at matching the individual gains of the two branches of the balanced mixer. Typically, balancing of such circuits only requires compensation for small deviations, since the components in balanced circuits are selected to have matching properties. The small compensation range of a balancing circuit will not allow for adjusting the overall gain of such an RF circuit by a significant amount.

Murtojärvi is silent with regard to adjusting the *overall gain* of the circuit, or more particularly, adjusting the overall gain via the operating point of a mixing transistor. Thus, Murtojärvi also fails to disclose an RF-circuit including an amplifier and a controllable mixer where “a controllable portion of the overall gain of the RF circuit is determined by the operating point of the at least one mixing transistor,” as recited in presently amended claim 1.

In view of the above remarks and amendments, it is respectfully submitted that there is no 35 USC 112 enabling disclosure provided by Murtojärvi which makes the present invention as claimed in currently amended claim 1 unpatentable. It is further submitted that currently amended independent claim 6 is allowable for at least the same reasons that claim 1 is allowable. Since dependent claims 2-5 and 7-9 are dependent from allowable independent claims 1 and 6, it is submitted that they too are allowable for at least the same reasons that their respective independent claims are allowable. Thus, it is further submitted that this rejection has been satisfied and should be withdrawn.

Having fully addressed the Examiner’s rejections it is believed that, in view of the preceding amendments and remarks, this application stands in condition for allowance. Accordingly then, reconsideration and allowance are respectfully solicited. If, however, the Examiner is of the opinion that such action cannot be taken, the Examiner is invited to

contact the applicant's representative at (609) 734-6804, so that a mutually convenient date and time for a telephonic interview may be scheduled.

No fee is believed due. However, if a fee is due, please charge the additional fee to Deposit Account 07-0832.

Respectfully submitted,

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March 23, 2009